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CAPACITY BUILDING FOR MITIGATING ENVIRONMENTAL DEGRADATION: THE EXAMPLE OF AKOKO WOMEN ENTREPRENEURS, ONDO STATE, NIGERIA

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Abstract

This study examined Akoko women entrepreneurs' (food production providers) experience in the training for mitigating environmental degradation. The objectives of the study include: establishment of the factors for women entrepreneurs' participation in fitness training, finding out the training programmes offered by the service providers, determining the suitability of the qualification of the service providers, examining the relevance of the training towards mitigating environmental degradation, and finally to investigate the means used by these food providers in disposing their waste. The research took place in Akoko South West Local Government Area of Ondo State, Nigeria, between 19th and 23rd August 2013. A total of ten Health providers and one hundred and sixteen women entrepreneurs (food production providers) participated in the study. The study adopted a qualitative research type of focus group discussion and key informant interview. Among others, findings revealed that the capacity building greatly reduced indiscriminate disposal of refuse and waste. Consequent upon these findings, it was recommended among others that the training should be extended to cover Disaster Risk Reduction (DRR) and Emergency Preparedness Response (EPR). In addition, experts in disaster risk reduction should be involved in future training and government should also provide necessary infrastructure for the populace.

Keywords: Women entrepreneurs, Capacity building, Waste disposal, Mitigation and Environmental degradation.

Introduction

The trends of economic life, activities and population of women call for good training in mitigating environmental degradation. Although,

training in the development of sustainable and ecologically sound consumption and production patterns and approaches to natural resource management should not be peculiar to women alone, it is however, deemed very urgent and essential now because, women are more reliant on their local environment for their livelihood. For instance, women entrepreneurs are engaged in food production like cassava production (garri, elubo, fufu) bean cake and porridge preparation, meal hawking, restaurant running among others. The preparation of these food substances are done mostly with leaves, fire wood, nylon and plastics which eventually turn to waste. Waste could be generated either from domestic or an estate setting. Sule (1981) asserted that Nigerian city's poor environmental condition could be attributed to improper management of solid wastes and poor enforcement of solid waste disposal law. Akoko area especially, the densely populated area which is the focus of this study is a case in point. Sule reiterated that the main obstacle in good sanitation practise is lack of suitable site for solid waste disposal which could also be attributed to failure of socio-economic development to keep pace with population increase and rural-urban migration.

According to Benneh et al. (1993). Residential domestic waste form the bulk of all sources of solid waste produced in urban areas. These wastes have high density with high moisture content. The organic component of solid waste accounts for about 70% to 90%, while tins, cans and paper are probably responsible for about 5% to 10% of the waste produced. Also, insufficient communal facilities can lead to open defecation along beaches, drains and open places which can be mixed with household refuse. The public holds the view that waste management should be sole responsibility of the Governments Waste Management Department; indiscriminate disposal of waste has resulted in the clogging of the few built drainage channels and natural water courses with garbage and salt that are not removed regularly.

Again, Cotton and Ali (1993) found that a major obstacle to the provision of latrines in some urban areas is highly connected with the small size of plot allocated for the purpose. It was observed that lack of knowledge, unaffordability and others are the main courses for lack of household toilets/latrines. The African continent especially, West Africa is yet to meet the Millenium Development Goals standard in sanitation. For instance, in 2008 Burkina Faso's improved sanitation coverage was 11%, Ghana had 13% and Mali 36% (WHO and UNICEF,2010 as quoted by Ikebolaye, 2013). There had been increased sanitation efforts recently but they have not been able to keep pace with population growth. There had been an increase of over 37 Million people in West Africa without access to sanitation between 1990 and 2008 (WHO and UNICEF, 2010 as quoted by Ikebolaye, 2013).

West African countries including Nigeria have two broad types of sanitation technology which are the flush toilets and pit latrines. Flush toilet are generally connected to on-site septic tanks or in few case especially, in the urban centre to a sewage system and treatment plant while on site latrines are simple and an un-improved pit toilet and double or single vault ventilated Improved Pits (VIPs). Recently the popularity of urine diverting dry toilets (UDDT) has increased although relatively rare. These systems are majorly managed at the household level while the sewage systems are supported by municipal national organizations. Also, in Nigeria some State Governments provides public functioning toilets in strategic places like the market and densely populated areas. Lagos is a good example.

The provision of adequate sanitation is sine qua non to environmental health and good living standard of humans as there is a great link between sanitation and health. Good Sanitation prevents the spread of diseases whether bacterial, viral or helminth origins. Inadequate sanitation implies the spread of excreta related diseases; the pathogens in excreta will be released into the environment with the risk of exposure to human beings and pollution of the environment. In fact the increase in the concentration of these could have far reaching consequences.

Till the present majority of indigenous women entrepreneurs in Nigeria live in sordid environment without toilet facilities and proper waste disposal and these prepare food for a sizeable representation of the population of the people. For instance, the available data from the National Bureau of Statistics, household survey reveals that in Ondo State only 27.2 percent of the population has good toilet facility while 8.5 percent of the people defecate and urinate in water. Also, 28.3 percent and 48.0 percent of the population dispose refuse within the compound and unauthorised refuse heap respectively while, 47.3 percent (42.0 percent, 2.9 percent and 2.2 percent) of the people do not have access to potable water (National Bureau of Statistics, 2008). See table 1-3 at the end of the paper please.

These confirm the level of poverty, the value given to infrastructural development by the government and the quality of life lived by Nigerians. Instead of having an atmosphere where economic and environmental progress proceeds in harmony, the reverse is the case. The atmosphere is undergoing an unprecedented change, largely as a result of human activities, fossil fuel, burning, deforestation and agricultural practices. The destruction of the rain forest is getting worse especially in low and middle income countries like Nigeria, (United Nation, 2002 and Sumiani, 2005).

It is sad to note that a nation that is struggling to build her economy is still prone to economic losses due to natural hazards like recurring floods which also result in major loss of human lives and livelihoods, the destruction of economic and social infrastructure as well as environmental

damages. (Munich Re, 2002 and Alese, 2014a). Flood disasters result from human- created vulnerability like in proper waste disposal, design and location of infrastructure, concentration of population, exploitation of natural resources and the like (Hualou, 2011).

In Nigeria flood events has a long year of history of devastation of lives and properties (Adedeji, Odufuwa and Adebayo, 2012). Urban flooding is a constant occurrence in towns and cities where there is little or no provision for surface drainage or where existing drainage has been blocked with municipal waste. Nigerian cities today face problems which include rapid urbanization, Deteriorating environment, urban decay unclear refuse flooding, erosion and pollution (Babanyara et al, 2010 Etuonoibe, 2011 as cited by Adedeji et al, 2012).In recent years, the unprecedented rate of flooding implicates increasing rainstorms due to global warming and climate charge. Although, flood hazard is natural human influence can exacerbate the problem (Adedeji et al, 2012).

Since flooding is associated with harphasard waste disposal and governments' provision is highly inadequate as table 1 and 2 revealed it is imperative to do literature on the preparedness of and risk assessment for flood. Poor people are more vulnerable to disasters and the percentage of poor women is higher. Women are therefore, more susceptible in this case.

Environmental degradation displaces communities especially, women from their entrepreneurial activities. It impacts negatively on health well-being and quality of life of the people at large, especially, the female. Since the role of women is crucial to the production of food and nutrition, the enhancement of subsistence businesses, informal sectors and the preservation of the environment are very crucial. Women are the most stable members of the community.

It has been observed that a very important but frequently ignored aspect in disaster management efforts in Nigeria is risk assessment. Urbanization and lack of good local governance have been regarded as a major factor of urban flood risk (Darteh, 2010) Urbanization restricts water flows thereby exacerbating the damages caused by flood. Majority of women in this study live in urban slum, they throw refuse into the few drains provided by the household and government especially, during rainfall believing that it will be washed off into rivers. This later cause significant change in base flows and also obstructs smooth running of flood or storm waters. Nigerian urban areas are particularly vulnerable to flooding due to inadequate capacity for drainage structures, changes in eco-system through the replacement of natural and absorptive soil cover with concrete and deforestation of hillsides; this has the effect of increasing the quantity and rate of runoff, and through soil erosion and the silting up of drainage channels (Adedeji et al, 2012).

The awareness and understanding of climate change should prepare individuals, organizations and government for a prompt action towards the mitigation of environmental degradation. Today, there is a growing awareness of the need for sustainable environment and development by the general public, industry and academia. Nigerians need to know the level of contribution of individuals to creating the problem of waste disposal.

As at the time of writing this paper-July, 2014 news has it that flood has started claiming lives, properties and destabilizing people in the urban city of Ibadan, a city densely populated in the South Western States of Nigeria. Part of Ondo State lies in the coastal area, also densely populated in the urban and urban slum. Since most of the women in this study live in the urban and urban slum, it is imperative to build their capacity through skill development in the area of mitigating environmental degradation.

Capacity building is a process of achieving self reliance through the strengthening of human and institutional capabilities within an economy, to serve the interest of human, economic and political development. Building capacities of human resources both in public and private organization is very critical to the development of a nation. Although, the Nigerian government is building the capacities of her human resources, it is apparent however, that her efforts are inadequate in salient areas in the process of change especially, as it affect the climate.

In the submission of Aroge (2000), he opines that skills are more person-oriented and job oriented which implies a basic and necessary requirement for performance. The process of skills acquisition supplies information for formulating and implementing training programmes towards matching training with needs to enhance better utilization of human resources. The Emergency Preparedness and Response (EPR), Disaster Risk Reduction (DRR), Capacity Assessment Report on disaster profile in Nigeria inform that:

i. Rapid population growth , urbanization, and socio political issues compounded by ethic popularity, has often led to fierce competition for scarce resources leading to deteriorating livelihood, social marginalization, crime and general insecurity (FGN, 2012 and Alese, 2014a).
ii. Severe floods, wind storm, drought and desertification, and several other extreme weather and climate events have impacted negatively on its social economy.
iii. Nigeria is prone to flooding.
iv. Urban flooding occurs in coastal areas especially where little or no provision has been made for surface drainage, or where existing drainage has been blocked with municipal waste, refuse and eroded soil sediments. The areas most severely affected by impacts of

> flooding are Lagos, Ondo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River States. Coastal erosion is experienced in almost all the country's coastal communities. The social and economic consequence of coastal erosion is substantial. It could cause the displacement of a whole community (FGN, 2012 p8-9).

The response to this profile was an action plan for Disaster Risk Reduction (DRR) for (2006-2015) which was as a result of Hyogo Framework for Action (HFA) 2007 experts. The objectives are to:

i. identify natural/human–induced hazards and assess their associated risks and costs.
ii. improve the capabilities of the communities to predict and offer early warnings on natural hazards and disaster risks.
iii. enhance public awareness of disaster prevention and mitigation through training, education and public enlightenment.
iv. promote understanding of the DRR paradigm and
v. promote appropriate intervening institutions to enhance the capabilities of SEMAs, LGAs and communities.

It is imperative to ask how far Nigeria has achieved these objectives. Has she actually built the necessary human and institutional capacities needed for mitigating environmental degradation? How far has she promoted the understanding of the Disaster Risk Reduction Paradigm through training, education and public enlightenment? According to Enahoro as cited by Aroge, (2000) every enterprise within the Nigerian economy, public or private should build its human resources without which Nigeria cannot achieve development. Can we also ask the essence of building human resources for the development of public and private enterprise without building adequate safety nets for the sustainability of the enterprise? Although, Nigeria has been paying great attention to the building of her human resources formally and in the recent time the informal sector (Alese, 2010 and 2013) she has not paid adequate attention to training of her citizenry in environmental mitigation which is a safety net towards developmental sustainability.

Training in the form of waste management is highly imperative in environmental mitigation and disaster reduction which could also transform to the management of climate change. For instance, Samiha (2013) asserts that solid waste and pollution cannot be totally eradicated if human is still on earth but, it is the concern of human to reduce pollution through reduce, reuse and recycle-the 3R principle. The 3R principle provides the natural resources for the future by reducing the use of natural resources while reusing and recycling them as much as possible. This also reduces pollution through minimisation of waste and promoting healthy environment.

The Reduce, Reuse and Recycle principle became increasingly utilized in countries like United States of America, Japan, European countries and some developing countries as a result of economic development and urbanization. The best way to reduce the amount of solid waste is to limit the consumption of raw materials, increase the rate of recovery and reuse waste materials (Syed, 2006). According to Adedipe et al (2005) the prevention principal and avoidance of waste is to prevent the generation of waste by reducing at source the waste produced. One can reduce waste by reducing packaging the use of plastic bags, plastic and paper plates, cups and plastic utensils and the construction of more reusable items. Waste generated can also be reused especially where one cannot reduce waste. This could be done by repairing, selling or donating the items. Reuse is cheaper and preferable to recycling as there is no need for reprocessing. Reuse can also be socially and culturally beneficial. Reuse centers have been established in many countries with the aim of breaking the short product to waste cycle and extending the life of products through repairing and selling item at lower price. Reuse centers can also create employment for people. Japan as an industrial country planned 'industry cluster' where waste of one industry is the resource of another (Adedipe et al, 2005).

Recycling is turning a 'dead' product to a useable raw material to make other products. Separation of waste at the source is a good step in recycling. This could be done through legislation rising of environmental awareness stimulation and financial incentives (Samiha, 2013). Recyclables are collected from sources like households, business centers and construction sites. They are sent to materials recovery facility where they are sorted and processed before being sent to the manufacturers (Samiha, 2013). It is important to mention that recycling is a manufacturing process which also has impact on the environment but which is better when weighed in terms of its advantages.

In response to the action plan on Disaster Risk Reduction (DRR) 2006-2015, Nigeria did took some steps in creating awareness on the effect of climate change on the environment by forecasting weather on the media, broadcasting jingles on a better way of disposing waste, setting up institutions and organizations in universities across the country to see to the mitigation of environmental degradation and reduction of environmental disaster. It is in line with these that food production providers in the informal sector received training on mitigating environmental degradation through the department of Environmental Health Services. The development of Environmental Health has a history dated back to the 18th century; Sanitary Inspectors were introduced to the colony of Lagos in order to prevent the breeding of mosquitoes which was a major killer of colonial officials. A sanitary officer represents a top position in the colonial government (Sawa,

2011). This is the reason for making a Senior Municipal Sanitary Officer a statutory member of the legislative council in 1913. Sanitary Inspectors were later renamed as Environmental Health Officers.

The Environmental Health Officers and Registration Council of Nigeria (EHRECON) as a parastatal under the Federal Ministry of Environment, was established by the Act 11 2002 to register environmental health officers and regulate the practice of the profession (Sawa, 2011). The council started the registration of the practice in 2007 in the area of cleaning services, pest control, waste collection among others.

Environmental health was recently defined as comprising the aspects of human health which include quality of life determined by physical, biological, chemical, social and psychological factors in the environment (Sawa, 2011). It assesses, controls, corrects and prevents these factors that can affect the health of present and future generations adversely. The organization assists essentially in the prevention, detection and control of environmental hazards that affect human health.

The World Health Organization (WHO) specified that the control and maintenance of environmental health can be achieved through proper waste management, food control and hygiene, pest and vector control, environmental health control of sanitation, epidemiological investigation and control (Sawa, 2011). Others include air quality management, occupational health and safety, water resources management and sanitation, noise control, protection of recreational environment, control of frontiers, air, seaports, and border crossing, pollution control and abatement, educational activities as well as environmental health impact assessment.

Also, Welch (n. d) asserts that environmental health profession has evolved from primarily general practitioners to include highly socialized areas of expertise like industrial hygienists, epidemiologists, consumer safety officers, health physicists, injury prevention specialists, Emergency Response Coordinators and hazardous material specialists. He reiterated that the work areas of environmental health officers are diverse and numerous and this include epidemiological surveillance, disease prevention, radiological health, industrial hygiene, food safety, injury prevention and education and emergency preparedness. He added that during natural disasters and other emergencies, environmental health officers protect the public from environmental threats and help the communities recover (Welch n. d).

The environmental health officers had a week training with the food handlers. The skills imparted include:

- Personal Hygiene
- Water Sanitation
- Waste Management

- Nutrition/Food Hygiene
- Environmental Hygiene
- Practical/Demonstration

Personal hygiene is all involving in health education. This skill was taught while emphasising the care of the physical body and the environment. The importance of living in a healthy, preparing food in a good and hygienic environment, while eating balanced diet.

Water sanitation education was given while stressing Water Quality and Sanitation. According to Ahmed et al (2005) the use of water has grown at more than twice the rate of world's population increase. Although, seventy-five percent (75%) of the world is covered by water, 97.5% of all water on earth consists of salt water, leaving only 2.5 % as fresh water, of this 2.5%, 70% of it is frozen in ice caps of Antarctica and Greenland, leaving only less than1% of the world's fresh water assessable for direct human use.In developing countries with high levels of population and economic depression such as Nigeria intense water scarcity tends to occur especially, with low amount of fresh water. Irrigation for agricultural purposes accounts for 70% of water taken from lakes, rivers and ground water sources worldwide. This means that one-fifth of all people do not have access to safe drinking water, while more than 0ne-half of the world's population lacks adequate sanitation especially, the poverty stricken. An estimated one-half of the people in developing countries suffers from water or food associated diseases caused either directly by infection through the consumption of contaminated water or food or indirectly by vectors such as mosquitoes which breeds in stagnant water pools. Heavy chemical pollution from industrial discharge and agricultural and urban runoff also render water unsuitable for consumption. These decreases further the available amount of existing safe drinking water (Ahmed et al, 2005).

Waste management training was also very relevant as issues of sanitation are a major component of water indicators. Safe drinking water indicators measure problems of distributing safe water especially, focusing on the opportunity for equal access and the presence of reliable facilities. Safe drinking water is closely linked to access to sanitation services. Sanitation services are infrastructures of sewerage disposal and waste management. The accessibility of reliable toilets and save municipal waste management systems is important to maintaining public health.

Many diseases are contracted from unsanitary condition. Lack of hygiene also causes infant mortality while it is the easiest to prevent with the presence of good sanitation facilities. Hygiene education and awareness is salient in issues of sanitation as water and sanitation related diseases are very much dependent on behavioural practices of household in the quantity and quality of water used (Ahmed et al, 2005). Educating the public on proper

hygiene practices and access to private sanitation facilities always have good impact. If sanitation facilities are private, women who are often forced to relieve themselves in unclean areas because of privacy will be comfortable. Women as primary educators in the home will benefit better and transfer the skill (Ahmed et al, 2005).

Food security is defined as access to ample and nutritious food at all times which provides enough nourishment for an active and healthy life while food security is primarily an issue of distribution. Some 800 million of the world's population and about 200 million of them, young children suffer from hunger and chronic malnutrition in developing countries (Ahmed et al, 2005). An estimation of over half of child mortality is caused by malnutrition. Hunger and infection leads to vulnerable immune systems. If children are adequately fed, they may not absorb nutrients adequately due to water borne diseases like diarrhea and other parasitic infection such as hookworm, round worm and whipworm. Issues of food security like malnutrition are inseparable from water safety and sanitation concerns (Ahmed et al, 2005). Nutritious food is one of the most fundamental requirements of survival in a community. It is the responsibility of the government to ensure that people have access to adequate food that is, enough food to meet the basic daily needs of the people (food security) and ensuring that they are also protected from harmful and unsafe food (food safety) (Ahmed et al, 2005).

Environmental hygiene is as important as other skills that have been discussed earlier. For instance, an unclean and unsafe environment is fraught with diseases and hazards. Vector-borne diseases thrive in an unhealthy environment. A disease vector is an organism which carries diseases parasites from one host to another. Examples are mosquitoes, tick or leech. Vector-borne diseases species vary in feeding, mating and incubation habits (Ahmed et al, 2005). Different mosquito breeds are able to coexist by concentrating on different host; broadening their preference in host consumption when necessary by being active during other times of the day (Ahmed et al, 2005). Some can read the bacterial signals in the water where they lay their larvae to tell whether the pool is temporary or permanent. An Funestus, a type of female mosquito only lay eggs in highly vegetated areas that make them difficult to capture. Whenever a shadow crosses over the larvae, they will dive into the bottom of the pool and remain hidden for up to thirty minutes.

A factor also shared by mosquitoes is the production of larvae. Larvae development lasts for only one to two weeks generally while hatching usually occurs in less than a minute. The most common and important requirements for the survival of larvae is the availability of water resources (Ahmed et al, 2005). Human behaviour affect the environment of

diseases vectors. Such include mass migration and sudden population movement, international travel and commerce, changes in land use, microbial adaptation and resistance, lack of reliable public infrastructure and global climate change.

1.1Statment of the Problem

Although, efforts are being made by the government to train and build the capacity of women entrepreneurs especially, food handlers, the ability to sustain a healthy environment through waste management, devoid of permanent flood risk is inadequate. This study assesses the impact of Fitness training on women entrepreneurs (food handlers) in Akoko South West Local Government Area of Ondo State, Nigeria.

1.1.1 Research Questions

What are the factors responsible for entrepreneurs (food handlers) participation in the training? What are the training programmes offered by the service providers? What are the qualifications of the service providers? How relevant is the training towards mitigating environmental degradation? How do the food handlers dispose their waste?

1.1.2 Methodology

The study was conducted in Akoko South West Local Government Area of Ondo State, South West, Nigeria. It is a coastal area with a population of 3460877 people (NPC, 2006). Ondo State has 19 Local Government Areas in which Akoko South West Local Government Area is one. The study was further delimited to Akungba-Akoko, Iwaro-Oka, and Oka-Akoko by the researcher because they are the most densely populated areas in the State, one of the reasons being that the university, Adekunle Ajasin University, was located in Akungba-Akoko.

Agriculture is the mainstay of the economy which provides food, cash crops like cocoa, shelter and employment to the people. They are also involved in other income generating activities like commuter driving, tailoring, bricklaying, processing of agricultural produce into various products, snacks making, food production and the like. The population of the study comprised all women that participated in the training programme in year 2013. They are estimated at Two hundred and fifty-eight(258). The study purposively selected all the One hundred and sixteen (116) food handlers' participants. Others are liquor, palm wine and beer handlers thus; the sample size of the study was 116 participants.

Data was collected from the participants using focus group discussion and key informant interview. Demographic information of the participants was taken. The pattern of participation, Factors for women food handlers' participation in training, the skills, ways of disposing waste and the relevance of the training to environmental degradation were all tested. The

researcher made use of descriptive statistics through frequency counts, percentages and mean while chi-square was used in analyzing the data.

1.1.3 Results and Discussion of Findings

The result of the age distribution of participants in notes indicates that majority of the food handlers (80%) are within their reproductive age. Again, that of religious affiliation shows that both Islam (53.5%) and Christianity (43.1%) is widely practiced in the area. That of marital status reveals that the number of Female headed household is high in the study area (widowed 10.3% and divorced 31.0% = 41.3%) this confirms Alese, 2010 and 2014 that female headed household have increased. Equally, the number of children of participants is high 4-8 years (81.0%). This implies that the rate of increase in population is very high in the study area. The result agrees with Ahmed et al, (2005) IPCC, (2007) FGN that Nigeria is the most populated country in Africa. Rapid population growth, urbanization and sociopolitical issues, compounded by ethnic plurality, has often led to competition for scarce resource, leading to deteriorating livelihood, social marginalization, crime and general security. It can be said that the participants need training on population education.

Also, the study revealed that the only 10 (8.6%) of them had basic literacy skills while 2 (1.7%) had the Secondary School Certificate. This implies that the entrepreneurs need literacy skills in order to be very productive (Alese, 2010).

The findings of the computed outcome in table 4 (see the end of the paper) indicated that there was positive significant relationship between Fitness training programme and the Capacity building among women entrepreneurs. X^2 =39.99. It also shows that participation in training and acquisition of skills is significant to environmental degradation. This is in agreement with UNDP (2000) as cited by Oladapo, (2006) that skill improvement training for women would increase their capacity and abilities, their economic conditions by creating job opportunities, provide choices, building capacity to manage the economy, empower women, protect the environment and eradicate poverty. It also corroborated Ahmed et al (2005) and Sawa (2011) as they reported that the World Health Organization (WHO) specified that the control and maintenance of environmental health can be achieved through proper waste management, food control and hygiene, pest and vector control, environmental health control of sanitation, epidemiological investigation and control (Sawa, 2011). Others include air quality management, occupational health and safety, water resources management and sanitation, noise control, protection of recreational environment, control of frontiers, air, seaports, and border crossing, pollution control and abatement, educational activities as well as environmental health impact assessment.

The result in table 5 (see end of the paper) also revealed the influence of the dependent variables on the independent variables to be significant as calculated value 39.99 is less than the observed frequency 68.98. Therefore, the capacity building programme enhanced women empowerment. This also corroborates Manuh, (1998) while affirming that food security cannot be assured without improving the situation of women producers in Africa. She went further to say that women have shown themselves ready to take advantage of new opportunities.

The Environmental Health Officers qualification is between technicians (Two years training in School of Technology), Technologist (four years training in school of technology) and Officers (university degree holders) with additional three years in the university after four years at the school of technology).

The Environmental Health Officers corroborated the findings of the participants thus:

On the pattern of Participation:

They said participants attend a week fitness training immediately they are seen to be practicing. Anybody found wanting will not be allowed to practice.

KII Oke Oka June 13, 2014.

Again, they confirmed that the laboratory test is compulsory for the entire trainee.

This test search for ailments in their body so that they will not infect others (the test include; urine, feaces and blood test).

KII. Iwaro Oka June 18, 2014.

They further stressed that *Akungba, Iwaro, Oke Oka areas have improved tremendously in terms of sanitations. Initially, officers are afraid to prosecute offenders of sanitation, but with the crop of present officers they go round to see to the cleanliness of household. They prosecute households without refuse bin and toilets after giving warning notice. They educate the public on the importance of living in safe and clean environment that is free from environmental factors that are dangerous to human existence.*

These include congestion in houses, non availability of toilet facilities in houses. Bushy environment, litter with refuse, dilapidated buildings and uncompleted houses.

KII Akungba-Akoko July 3, 2014.

Also, the officers said that they do follow up after training.

On the issue of government turning waste to wealth in terms of the 3R principle Reduce, Reuse and Recycle they responded that, *up till this moment no government has ever turned waste to wealth nor embarked on the 3R principle of waste management in Ondo State*.

KII Oke Oka July 7, 2014.

This contradicts Syed, (2006) Adedipe, (2005) and Samiha, (2013) that the Reduce Reuse and Recycle principle became increasingly utilised in United States, Japan and some developing countries.

The challenges faced while building the capacity of the women entrepreneurs is basically logistics. The government does not provide logistics. The trainees are made to pay a particular amount to cover the running cost during the one week training. However, the training is not done from time to time because of the funding. The officers said:

Some of these trainees have godfathers as politicians. We have not trained another set since last year because the trainees reported the Akungba centre to the government who in turn labeled the health officers as "thieves".

This further confirms Alese, (2010) that political reasons should not affect target programmes where wider coverage in scope and skills will be provided.

Conclusion

The researcher wishes to conclude by this statement "if knowledge is the key to economic development, then people are the keys to knowledge. Ideas come from the people, but institutions are the instruments that put ideas to practice". Azua and Fundacion Metropoli 2005p.24

Women are invaluable to the process of knowledge generation and transfer, the saying though not official that Nigeria is still developing because it has refused to develop her women adequately comes to mind. If these women had been trained with the entire necessary infrastructure, they will transfer the skills better to the society thereby mitigating environmental degradation.

Recommendations

Broadly, this paper suggests that:

- The provision of logistics is necessary for training women entrepreneurs in mitigating environmental degradation.
- Government should implement the 3R principle of waste management urgently.
- The training and retraining of environmental health officers from time to time to keep abreast of recent and new information as their roles and duty have stepped forward globally.
- Environmental health officers and Town planning officers should cooperate to make the environment a better place to live in.
- Programmes of this magnitude should involve experts in disaster risk and reduction.

- Skills on Emergency Preparedness Response (EPR) should be included in the scheme.
- The training should be done more frequently. It could be adapted to suit the trainee's time.
- There should be public enlightenment on the evil of harp hazard waste disposal both formally and informally.
- There is the need of population education.

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Table 1: Percentage distribution of household by and type of toilet facility 2008

State	None	Toilet on water	Flush to Sewage	Flush to septic tank	Pail/ Bucket	Covered pit Latrine	Uncovered pit Latrine	VIP Latrine	Other Types
Lagos	2.7	1.7	27.9	45.5	0.0	14.7	4.4	0.5	2.7
Ogun	0.2	0.0	6.6	6.9	0.2	54.3	4.4	0.5	26.9
Ondo	2.0	8.5	0.7	4.8	0.0	22.4	2.6	0.3	58.7
Osun	2.4	0.3	0.7	8.9	0.0	32.5	0.5	1.4	53.3
Oyo	53.3	0.6	5.0	15.8	0.6	23.2	0.6	0.0	0.9

Source: NBS/CBN/NCC 2008 Social Economic survey on Nigeria NBS Abuja.

Table 2: Percentage distribution of households by type of refuse disposal facility, 2008

State	Household Bin Collected by Government Agency	Household Bin Collected by Private Agency	Government Bin or shed	Disposal within Compound	Unauthorized refuse Heap	Other types
Lagos	33.6	34.9	3.6	2.6	18.8	6.5
Ogun	3.3	11.7	0.8	6.5	64.7	12.9

Ondo	0.5	0.0	0.0	28.3	48.0	18.0
Osun	0.0	0.0	0.0	5.1	90.4	4.5
Oyo	0.0	4.1	0.2	11.3	80.5	3.9

Source: NBS/CBN/NCC (2008) Social Economic Survey on Nigeria, NBS, Abuja.

Table 3: Percentage distribution of households by major source of water for drinking and cooking 2008

State	Total Household	Pipe Borne water treated	Pipe Borne Water untreated	Borehole Hand Pump	Well/ Spring protected	Well /Spring Un-Protected	Rain water	Stream /pond river water/ rain	Tanker/ truck vendor
Lagos	24,97417	8.4	1.2	73.8	5.0	2.1	0.3	0.0	7.5
Ogun	1063360	10.2	1.0	51.5	13.9	3.8	0.0	19.4	0.0
Ondo	1221029	0.5	2.9	16.1	35.8	2.2	0.2	42.0	0.0
Osun	1013154	20.4	0.0	9.8	39.3	3.1	0.0	23.8	2.4
Oyo	1576874	9.4	0.3	20.5	41.1	4.8	0.0	22.9	0.0

Source: NBS/CBN/NCC Socio Economic Survey on Nigeria, 2008.

Demographic information of participants

age distribution of participants

Age	Frequency	Percentage
20-25	12	8.5
26-30	18	10.6
31-35	20	12.4
36-40	18	14.4
41-45	22	16.1
46-50	19	18.1
51-55	7	20.1
Total	116	100

Religious affiliation of participants

Religion	Frequency	Percentage
Islam	62	53.5
Christianity	50	43.1
Traditional	2	1.7
Others	2	1.7
Total	116	100

Distribution of participants based on marital status

Marital status	Frequency	Percentage
Single	20	17.2
Married	48	41.4
Widowed	12	10.3
Divorced	36	31.0
Total	116	100

Distribution of participants by number of children

No of children	Frequency	Percentage
8 and above	2	1.7
7 and 6	20	17.2
5 and 4	72	62.1
3 and 2	20	17.2
1	2	1.7
Total	116	100

Table 4: Showing the observed frequency of participants in the training programme

Alternatives	RQ1	RQ2	RQ3	RQ4	RQ5	Total
Accepted	5	23	20	10	11	69
Unaccepted	10	10	10	9	8	47
Total	15	33	30	19	19	116

Expected frequency

$C1_1 = \frac{15 \times 69}{116} = 8.92$ $\quad C2_1 = \frac{15 \times 47}{116} = 6.07$

$C1_2 = \frac{33 \times 69}{116} = 19.62$ $\quad C2_2 = \frac{33 \times 47}{116} = 13.37$

$C1_3 = \frac{30 \times 60}{116} = 17.84$ $\quad C2_3 = \frac{30 \times 47}{116} = 12.15$

$C1_4 = \frac{19 \times 69}{116} = 11.30$ $\quad C2_4 = \frac{19 \times 47}{116} = 7.69$

$C1_5 = \frac{19 \times 69}{116} = 11.30$ $\quad C2_5 = \frac{19 \times 47}{116} = 7.69$

Total = $\underline{\underline{68.98}}$ $\quad \underline{\underline{46.97}}$

Table 5: Expected frequency of the impact of fitness training on participants.

O	E	O-E	$(O-E)^2$	$\frac{\sum (O-E)^2}{F}$
5	8.92	-3.92	-15.36	1.72
10	19.62	-9.62	-92.5	4.71
23	17.84	5.16	26.6	1.49
10	11.30	-1.3	-1.69	1.5
20	11.30	8.7	75.69	6.7
10	6.07	3.93	15.44	2.54
10	13.37	-3.37	-11.35	8.5
9	12.15	-3.15	-9.92	8.16
11	7.69	3.31	10.95	1.42
8	7.69	0.31	0.096	1.25
				$X^2 = \underline{\underline{39.99}}$

Image 1

An unauthorized refuse dump and a boy defecating- An urban slum

image 2

Flooded structures close to the river

Image 3

A big river overflowing its banks during the rain and very close to a big structure used as hostel for a university students.

image 4

The researcher in a flooded area

Image 5

Refuse being swept from households, serving as obstacle to water channel

Image 6

Refuse on a waterway.